

# Implementing an artificial intelligence command centre in the NHS: a mixed-methods study

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## Plain language summary

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## Plain language summary

Safety-critical industries like airports often use 'command centres' to manage operations safely and efficiently. In contrast, most National Health Service hospitals have operational management that is fragmented across many departments and poorly co-ordinated. This may pose risks to the safety and care of patients and may partially explain excessive waiting times.

Bradford Royal Infirmary is one of the first National Health Service hospitals to try out a command-centre approach using new digital technologies. Hospital staff at Bradford now work together in a purpose-built Command Centre room and monitor a 'wall of analytics' that displays real-time data from the hospital's information systems. This study examines the implementation at Bradford in order to learn lessons that may help the National Health Service improve the way hospitals provide safe and efficient patient care.

We reviewed what is known about the approach, analysed hospital data, observed teams working in the Command Centre, interviewed staff and ran workshops with patients. We also compared Bradford with a similar hospital that did not initially have a command centre.

Our results showed the Bradford Command Centre does work. Staff told us the Command Centre helped them manage the hospital through the COVID-19 pandemic. Staff described how they used the new technology to improve efficiency and safety. We observed some challenges, including tension between the central team and local departments and concerns to make sure data were good quality. We could not measure the direct impact of the Command Centre on patient flow and safety using the hospital's data because the pandemic disrupted normal operations so much.

Patients expressed strong support for what they saw as modern methods but were concerned to ensure that the National Health Service tradition of personal care was preserved. Other National Health Service hospitals are interested in following a command-centre approach and our results should help them to learn from Bradford.

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